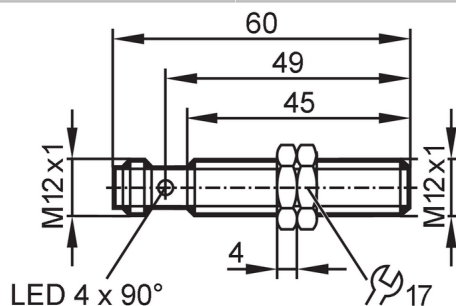


GF761S



Fail-safe inductive sensor

GIFK4003B2PS/SIL2/AM/US



Product characteristics

Electrical design	PNP
Enable zone [mm]	0...1.5
Housing	Threaded type
Dimensions [mm]	M12 x 1 / L = 60

Application

Special feature	gold-plated contacts; Full-metal housing
Type of operation	permanent operation
Safety-related sub-function	safe state when properly undamped
Application	Use in mobile and harsh applications

Electrical data

Operating voltage [V]	9...32 DC
Rated insulation voltage [V]	60
Current consumption [mA]	< 10; (24 V)
Protection class	III
Reverse polarity protection	yes
Max. power-on delay time [ms]	500

Outputs

Electrical design	PNP
Max. voltage drop switching output DC [V]	2.5
Number of OSSD outputs	2
Max. current load per OSSD output [mA]	50
Output data	Interface type C class 1
Output voltage at 24 V	compatible with EN 61131-2 inputs type 1, 2
Short-circuit protection	yes
Overload protection	yes
Max. capacitive load CL_max [nF]	20

Monitoring range

Enable zone [mm]	0...1.5
Safe switch-off distance sAs (sar) [mm]	6



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Accuracy / deviations		
Correction factor	steel: 1 / stainless steel: 0.6 / brass: 0.7 / aluminum: 0.6 / copper: 0.3	
Reaction times		
Response time when approaching the enable zone, turn-on time (ton)	[ms]	20
Response time to safety request, turn-off time (toff)	[ms]	20
Risk time / error handling time (toff max)	[ms]	100
Operating conditions		
Ambient temperature	[°C]	-40...85
Max. height above sea level	[m]	3000
Ionizing radiation	not permissible	
Protection	IP 65; IP 66; IP 67; IP 68; IP 69K	
Tests / approvals		
EMC	industrial environments	
	EN 60947-5-3	
	EN 61000-4-2 ESD	6 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	20 V/m 80...1000 MHz
	EN 61000-4-3 HF radiated	10 V/m 1,4...2,0 GHz / 3 V/m 2,0...6,0 GHz
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-5 Surge	2 kV
	EN 61000-4-6 HF conducted	10 V
	EN 61000-4-8	30 A/m 50/60 Hz / 1000 A/m 0 Hz
	EN 55011	class B
	Mobile applications	only for operation with central load-dump suppression (58 V) / not for active operation during motor start phase in 12 V systems
	ISO 10605 ESD	8 kV CD / 15 kV AD
	ISO 11452-2, ISO 11452-5 radiated immunity	100 V/m 400...3000 MHz
	ISO 7637-2, ISO 16750-2 conducted immunity	12 V / 24 V
	pulse	1 2a 2b 3a 3b 4 5b
	Severity level	III III III III III III 58V
	Failure criterion	B A B A A C/B A/C
	EN 55025	class 3
Shock resistance	EN 60068-2-27 Ea	100 g 11 ms half-sine; 3 shocks each in every direction of the 3 coordinate axes
Continuous shock resistance	EN 60068-2-27 Ea	40 g 6 ms; 4000 shocks each in every direction of the 3 coordinate axes
Fast temperature changes	EN 60068-2-14 Na	TA = -40°C; TB = 85°C; t1 = 45 min; t2 = 10 s 100 cycles
Vibration resistance	EN 60068-2-6 Fc	20 g (10...3000 Hz) / 50 sweep cycles per frequency; 1 octave per minute in 3 axes
	EN 60068-2-64 Fh	5.9 g RMS / effective acceleration for chassis mounting
	ISO 19014-3	5.7 g RMS / effective acceleration
Salt spray test	EN 60068-2-52 Kb	severity level 5 (4 test cycles)

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Safety classification		
Complies with the requirements	ISO 13849-1 Category 2, PL d	
	IEC 61508 SIL 2, HFT 0, SC 2	
Mission time TM	[h]	≤ 87600
Mission time TM (additional indication)		industrial environments Temperature range -25...70 °C ≤ 175200
PFH	[1/h]	< 1,5E-07
Mechanical data		
Weight	[g]	32.95
Housing		Threaded type
Mounting		flush mountable
Dimensions	[mm]	M12 x 1 / L = 60
Thread designation		M12 x 1
Material		threaded sleeve: stainless steel (1.4404 / 316L); sensing face: stainless steel (1.4404 / 316L); LED window: PEI; LED sealing: PU; lock nuts: stainless steel (1.4404 / 316L)
Tightening torque	[Nm]	15
Full-metal housing		yes
Displays / operating elements		
Display	Display switching status	4 LED, yellow
Accessories		
Items supplied	lock nuts: 2	
Remarks		
Remarks	meets the environmental and EMC requirements for operation in agricultural and forestry machinery, earthworks and construction machines as well as in industrial trucks	
	can be used in applications up to SIL 2 in accordance with IEC 62061, MPL d in accordance with ISO 19014-3 and Ag PL d in accordance with ISO 25119	
	Unless stated otherwise, all data refer to the reference target plate to IEC 60947-5-2 over the whole temperature range.	
	(FE360 = ST37-2K) 12x12x1 mm	
	the correction factors apply to an ambient temperature of 20°C	
	do not use a correction factor for the safe switch-off distance sAs/(sar)	
Pack quantity	1 pcs.	
Electrical connection - plug		
Connector: 1 x M12; coding: A; Contacts: gold-plated		
		

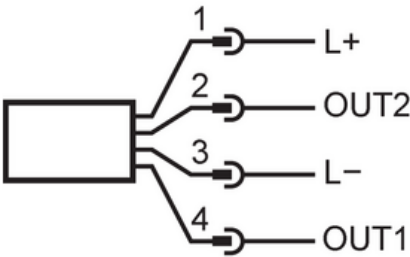
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Connection



1	L+	
2	OUT2	OSSD2
3	L-	
4	OUT1	OSSD1
OUT: Output		